

illustrative embodiment, the combined width 350 of each waveguiding segment 330n and its adjacent cladding region 340n is a constant that can be mathematically expressed as follows:

$$W(330_n) + W(340_n) = \Lambda$$

Amended

[0029] In the aforementioned embodiment of the invention, the period (Λ) = 20 microns. It should be noted that FIG. 4 is not a dimensionally exact view of the star coupler; rather, the relative sizes of the waveguiding segments 3301 ... 330n, the cladding regions 3401 ... 340n and the waveguide slab 310 have been drawn to illustrate that the widths of the waveguiding segments decrease as they become progressively closer to output waveguides 316; and that the waveguiding segments, the waveguides, and the slab are coplanar and comprise the same material. In FIG. 4 the widths of waveguiding segments 3301 ... 330n are shown decreasing linearly. However, a number of variations are possible that improve insertion loss over the prior art. For example, Λ does not need to be a constant and the width of the waveguiding segments do not need to decrease linearly. If, for example, it has been decided that Λ is to be constant, then the ratio of the width $W(330_n)$ to the period Λ can be viewed as a "duty cycle." Moreover, the duty cycle $W(330_n)/\Lambda$ can be related to the distance from the output waveguides 316 by a number of functional relationships including, but not limited to, raised cosine, linear, and parabolic. These functional relationships are graphically illustrated in FIG. 7. However, the important requirement to be followed in achieving the benefits of the present invention is that $W(330_n)$ decreases as the waveguiding segments 3301 ... 330n become progressively closer to output waveguides 316.

STATUS OF CLAIMS

Claims 1-29 are pending.

REMARKS

This is a preliminary amendment before the first Office Action.

Claims 1-29 are pending herein.